UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
100 ALABAMA STREET, S.W.
ATLANTA, GEORGIA 30303-3104

4WD-RCRA

MEMORANDUM

SUBJ: Evaluation of the status of the RCRIS Corrective Action Environmental Indicator Event Codes (CA725 and CA750) for Hoechst Celanese Corporation
Celriver Plant, Rock Hill, SC.
EPA I.D. Number: SCD 003 159 928

FROM: Syed K. Ahmed
North Program Section
RCRA Branch
Waste Management Division

Syed K. Ahmed

THRU: Caron B. Falconer
Chief, North Program Section
RCRA Program Branch

To: H. Kirk Lucius
Acting Chief
RCRA Program Branch

APPROVES ENTRY OF RECOMMENDED RCRIS CODES FOR CA725 & CA750

Waste Management Division

H. K. Lucius

I. PURPOSE OF MEMO

This memo is written to formalize an evaluation of Hoechst Celanese Celriver Plant's status in relation to the following RCRIS corrective action codes:

1) Human Exposures Controlled Determination (CA725).

2) Groundwater Releases Controlled Determination (CA750).

The applicability of these event codes adheres to the definitions and guidance provided by the Office of Solid Waste (OSW) in the July 29, 1994, memorandum to the Regional Waste Management Division Directors.

Concurrence by the RCRA Branch Chief is required prior to entering these event codes into RCRIS. Your concurrence with the interpretations provided in the following paragraphs and the subsequent recommendations is satisfied by dating and signing above.

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II. HUMAN EXPOSURES CONTROLLED DETERMINATION (CA725)

There are three (3) national status codes under CA725. These status codes are:

1) YE Yes, applicable as of this date.

2) NA Previous determination no longer applicable as of this data.

3) NC No control measures necessary.

Region 4 has also added a regional status code to CA725 which tracks initial evaluations in which a determination is made that plausible human exposures to current contamination risks are not controlled. This regional status code is listed as "NO, not applicable as of this date." Use of the regional status code is only applicable during the first CA725 evaluation. Evaluations subsequent to the first evaluation will use the national status codes (i.e., YE, NA and NC) to explain the current status of exposure controls.

Note that the three national status codes for CA725 are based on the entire facility (i.e., the codes are not SWMU specific). Therefore, every area at the facility must meet the definition before a YE, NA or NC status code can be entered for CA725. Similarly, the regional status code, NO, is applicable if plausible human exposures are not controlled in any areas of the facility.

This particular CA725 evaluation is the first evaluation performed by EPA for Hoechst Celanese Corporation, Rock Hill, SC. Because assumptions have to be made as to whether or not human exposures to current media contamination are plausible and, if plausible, whether or not controls are in place to address these plausible exposures, this memo first examines each environmental media (i.e., soil, groundwater, surface water, air) at the entire facility including any offsite contamination emanating from the facility rather than from individual areas or releases. After this media-by-media examination is presented, a final recommendation is offered as to the proper CA725 status code for the Hoechst Celanese Celriver Plant.

The following discussions, interpretations and conclusions on contamination and exposures at the facility are based on the following reference documents:

1. Draft RCRA Facility Assessment Report (12/17/92).
2. Corrective Action Program for Closed Chemical Holding Pond (dated July,5 1989).
3. RCRA Facility Assessment Report of Diesel Off-loading Station (May, 1991).

4. RCRA Facility Assessment of Track Pan Drain Line (December, 1991).
5. RCRA Facility Assessment of Waste Drum Storage Facility and Ketene Area (January 1992).
6. RCRA Facility Assessment of Boiler House Diesel Tank (August 1993).

III. MEDIA BY MEDIA DISCUSSION OF CONTAMINATION AND THE STATUS OF PLAUSIBLE HUMAN EXPOSURES

Air and **surface water** at the facility are not contaminated. Because there is no contamination, there are no plausible human exposures which must be controlled due to contaminated surface water or contaminated air.

Soil at the ketene Process area, Benzene underground tank area, Waste Acid Dope Disposal Area, Closed Chemical Holding Pond Area, Diesel Sump Area, Track Pan Drain Line and Boiler House Diesel Tank Area were found contaminated. Contaminated soils were either removed completely or to a depth where water table was met. The excavated soils were replaced with clean soil or concrete pad. Therefore human exposure to contaminated soil is controlled. Soils in other areas are either clean or have very low level of contamination which are less than Action Levels.

Groundwater onsite is contaminated and the contamination has been contained within the facility's boundary.

IV. STATUS CODE RECOMMENDATION FOR CA725:

The only contamination currently known to exist at, is in the onsite **groundwater**, but all plausible pathways to human exposure are controlled by institutional means. In consideration of the controls adopted by Hoechst Celanese, I recommend that the human exposure status code **CA725 YE** be entered into RCRIS for. this facility.

V. GROUNDWATER RELEASES CONTROLLED DETERMINATION (CA750)

There are three (3) status codes listed under CA750:

1) YE Yes, applicable as of this date.

2) NA Previous determination no longer applicable as of this date.

3) NR No releases to groundwater.

Region 4 has also added an additional status code which

tracks the initial evaluations in which a determination is made that groundwater releases are not controlled. This regional status code is listed as "NO, not applicable as of this date." Use of the regional status code is only applicable in the first CA750 evaluation. Evaluations subsequent to the first evaluation will use the national status codes (i.e., YE, NA and NR) to explain the current status of groundwater control.

Note that the three national status codes for CA750 are designed to measure the adequacy of actively or passively controlling the physical movement of groundwater contaminated with hazardous constituents above relevant action levels. The point where the success or failure of controlling the migration of hazardous constituents is measured is termed the designated boundary (e.g., the facility boundary, a line upgradient of receptors, the leading edge of the plume as defined by levels above action levels or cleanup standards, etc.). Therefore, every contaminated area at the facility must meet the definition before these event/status codes can be entered. Similarly, the regional status code is applicable if contaminated groundwater is not controlled in any area(s) of the facility.

This evaluation for CA750 is the first evaluation performed for Hoechst Celanese Carporation, Celriver Plant. Please note that CA750 is based on the adequate control of **all** contaminated groundwater at the facility.

The following discussions, interpretations and conclusions on contaminated groundwater at the facility are based on the documents referenced in Section II, and quarterly groundwater monitoring data submitted by the facility.

VI. STATUS CODE RECOMMENDATION FOR CA750:

Data contained in the documents referenced in Section V and quarterly groundwater data collected from monitoring wells, indicates releases from Waste Acid Dope Area, Closed Chemical Pond, and Benzine Underground Storage Tank, have contaminated groundwater at concentrations above relevant action levels. The contaminated soils have been removed and therefore, no longer source of release or exposure. The groundwater is contaminated above relevant action levels, and control measures i.e. pump and treat have been implemented to control the migration of contaminated groundwater. A total of twelve (12) extraction wells are installed, seven (7) wells are located near Waste Acid Dope area, two extraction wells at Closed Chemical Pond and three (3) extraction wells are installed near underground Benzene Storage tank.

Site Hydrogeology: The site strategraphy consists of a typical residual soil profile underlain by finer grained soils to coarse

grained materials directly above bed rock. Bedrock is encountered at depths ranging from 42 to 74 feet below land surface (bls) with shallower bedrock occurring at topographically lower elevations adjacent to the river. The facility is underlain by gabbo, meta-gabbo and biotite gneiss. The thickness of soil mantle appears to be highly dependent on the underlying rock type being relatively thin over gabbo and deepest over the gneiss and its transition with the meta-gabbo. The groundwater occurrence ranges from 5 to 50 feet below land surface. It also appears that the ground water generally follows surface topography, flowing generally to the north and east.

Unit 1 (uppermost aquifer) Water Quality: Analysis of groundwater in this unit indicates Volatile Organic Compounds (VOCs) and Semi Volatile Organic Compounds (SVOCs) have impacted groundwater. Twelve (12) recovery wells have been installed at the following locations:

Seven extraction wells in Waste Acid Dope Area
Two extraction well in Closed Chemical Pond Area
Three extraction wells in Benzene Underground Tank Area

The pump and treat system has been effective in reducing contaminants levels.

A comparison of the recent VOC concentrations with those detected at the start of the recovery system in 1985, combined with the draw down created by the recovery wells and the analytical data collected, indicates that the remediation system is recovering impacted water and causing a decrease in contamination concentrations.

Because all groundwater contamination at or emanating from the facility is controlled at this facility, I recommend that **CA750 YE** be entered into RCRIS for Hoechst Celanese, Celriver Plant, Rockhill, South Carolina.

Ahmed Falconer Kirk Lucius